REMARKS

This responds to the Office Action mailed on March 4, 2009.

Claims 24 and 25 are amended, no claims are canceled or added, as a result, claims 2-10, 12-20 and 24-25 remain pending in this application.

§ 112 Rejection of the Claims

Claims 24 and 25 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. In particular, the Office Action stated that it was unclear what is meant by the change in binary data on the substrate. According to the parent claims, the molecules are located on the substrate. It is unclear how these molecules or the interaction of these molecules constitute binary data. Applicant has amended claims 24 and 25 to remove the reference to binary data on the substrate and to more particularly describe the claimed invention. Support for the amendment may be found at paragraphs 0040 – 0041 of the specification. Applicant respectfully submits that the amendment overcomes the rejection.

§ 103 Rejection of the Claims

Claims 2-10 and 12-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over O'Keefe (U.S. Publication No. 2002/0004204 A1) in light of Berlien et al. (U.S. Patent 5,850,195) in view of Smilansky (U.S. Publication No. 2006/0228708). Applicant respectfully traverses the rejection.

The determination of obviousness under 35 U.S.C. § 103 is a legal conclusion based on factual evidence. *See Princeton Biochemicals, Inc. v. Beckman Coulter, Inc.*, 411 F.3d 1332, 1336-37 (Fed.Cir. 2005). The legal conclusion that a claim is obvious within § 103(a) depends on at least four underlying factual issues set forth in *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17, 86 S.Ct. 684, 15 L.Ed.2d 545 (1966). The underlying factual issues set forth in *Graham* are as follows: (1) the scope and content of the prior art; (2) differences between the prior art and the claims at issue; (3) the level of ordinary skill in the pertinent art; and (4) evaluation of any relevant secondary considerations.

The Examiner has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir.1988). To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested, by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974) ; M.P.E.P. § 2143.03. "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970) ; M.P.E.P. § 2143.03. As part of establishing a *prima facie* case of obviousness, the Examiner's analysis must show that some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead an individual to combine the relevant teaching of the references. *Id.* To facilitate review, this analysis should be made explicit. *KSR Int'l v. Teleflex Inc., et al.*, 127 S.Ct. 1727; 167 L.Ed 2d 705; 82 USPQ2d 1385 (2007) (citing *In re Kahn*, 441 F. 3d 977, 988 (Fed. Cir. 2006)). Applicant respectfully traverses the rejection because the claims contain elements not found in the combination of O'Keefe, Berlien and Smilansky.

For example, independent claim 2 recites "creating at least one stream of binary data carried by electrical, molecular or light signals" and further recites transferring the at least one stream of binary data and "receiving the streams of binary data carried by electrical, molecular or light signals transferred through the substrate." Claim 12 is a means plus function claim reciting similar subject matter. The Office Action states that O'Keefe, at paragraphs 0065, 0082 and 0083 teaches "creating at least one stream of light and data and transferring it through a substrate." Applicant notes that the claim recites that binary data is carried by electrical, molecular or light signals. At best, O'Keefe merely teaches passing a light stream through a substrate and measuring the intensity, an analog value, of the light using a photodiode or other photodectector. O'Keefe fails to teach or suggest creating and passing any type of signal carrying binary data through a substrate. Applicant has reviewed Berlien and Smilanksy and can find no teaching or suggestion of creating any streams of binary data carried by electrical, molecular or light signals that are passed through a substrate.

The Office Action states that Smilansky, at paragraph 0029 "teaches that the light from the substrate is saved as digital data...." Saving information as digital data is not the same as creating a digital data stream and passing it through a substrate. Smilansky does not teach any

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form of binary data carried by a signal through a substrate. Rather, Smilansky teaches the use of photomultiplier tubes (PMT) or Charge Coupled Devices (CCDs) to detect the amount of light emitted by exciting donor and acceptor flourophores. (see e.g., paragraphs 0029 and 0245 – 0249). The signals generated are not described as carrying binary data, rather the optical signal received by the PMT or CCD is converted to a digital value. As discussed in the response filed December 16, 2008, the analog to digital conversion disclosed in O'Keefe and Berlien, and inherent to the structure disclosed in Smilansky, would render the method recited in claim 2 useless because two forms of alteration would be present, one alteration as the signal passes through the substrate, and a further alteration resulting from the analog to digital conversion. This second alteration would destroy the operability of the system, because the system uses the ability to decode an identity based on the alteration of a binary data stream after it has passed through the substrate. The second alteration due to the analog to digital conversion would make it impossible to detect if the alteration in the binary signal was due to alteration as the signal passed through the substrate or if the alteration was due to the analog to digital conversion.

In view of the above, the combination of O'Keefe, Berlien and Smilansky fails to teach or suggest multiple elements of Applicant's claims 2 and 12. Therefore there are differences between claims 2 and 12 and the cited combination. As a result, claims 2 and 12 are not obvious in view of the combination. Applicant respectfully requests reconsideration and the withdrawal of the rejection of claims 2 and 12.

Claims 3-10 and 24 depend from claim 2 and claims 13-20 and 25 depend from 12. Each of these dependent claims are therefore allowable for at least the same reasons as discussed above regarding their respective base claims 2 and 12. Applicant respectfully requests reconsideration and the withdrawal of the rejection of claims 3-10, 13-20 and 24-25.

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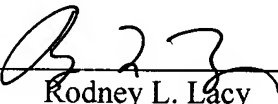
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CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's representative at (612) 373-6954 to facilitate prosecution of this application.

If necessary, please charge any additional fees or deficiencies, or credit any overpayments to Deposit Account No. 19-0743.

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this _4th_ day of August, 2009.

Rodney L. Lacy
_____
Name

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